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Wages for Young Workers up to the Age of 40

by René Morissette

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by

René Morissette

Social Analysis and Modelling Division
Statistics Canada

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Abstract

This study compares the earnings trajectories of several recent cohorts of young workers with those of cohorts who entered the labour market in the late 1970s. The study combines three versions of Statistics Canada's Longitudinal Worker file (LWF) and covers the 1978-to-2015 period. The main finding is that the degree of wage convergence that recent cohorts of young men have achieved relative to the 1978 cohort depends critically on which segments of the earnings distribution are considered. By the time they reached 40, young men who entered the labour market during the early 2000s and who were at the 75th or 90th percentile of the earnings distribution had higher annual wages than their counterparts who entered the labour market in the late 1970s. The opposite is true for young men who were at the 25th or 50th percentile of the earnings distribution. Hence, cross-cohort comparisons of age–earnings profiles of young men yield quite different conclusions, depending on the segment of the earnings distribution that is considered. In contrast, regardless of the segment of the earnings distribution considered, the annual wages at ages 39 to 40 and the cumulative annual wages generally increased across successive cohorts of young female employees.

Keywords: age–earnings profiles, earnings, youth, cohort analyses.

Executive summary

Over the last three decades, full-time jobs and permanent jobs have generally become scarcer for youth. In addition, median real hourly wages of young men employed in full-time jobs grew little, if at all, from the early 1980s to the mid-2010s. Along with other pieces of evidence from media reports, these facts have raised concerns that recent youth cohorts now experience less favourable earnings trajectories as they age than previous cohorts did 40 years ago.

Beaudry and Green (2000) examined this question for the first time in Canada several years ago. Using synthetic birth cohorts from the Survey of Consumer Finances (SCF), they showed that cohorts of young Canadian men entering the labour market between the mid-1980s and the early 1990s had less favourable earnings trajectories than previous cohorts entering the labour market in the mid-1960s or early 1970s. In contrast, university-educated young women who entered the labour market in the early 1990s had more favourable age–earnings profiles than their counterparts who did so in the mid-1960s or early 1970s.

This article revisits the issue of wage convergence with previous cohorts using more recent data drawn from larger data sets than those used in the aforementioned studies. The study combines three versions of Statistics Canada's Longitudinal Worker file (LWF) that cover the 1978-to-2015 period and measures the annual wages of young workers as they move from their late 20s to age 40.

Because of its large sample size, the LWF yields accurate measurements of annual wages and allows analyses that focus not only on median annual wages, but also on wages at the 10th, 25th, 75th, and 90th percentiles of the earnings distribution. This feature is particularly important in light of the growth in income inequality observed in Canada since the early 1980s.

The study finds the degree of wage convergence that recent cohorts of young men have achieved relative to the 1978 cohort depends critically on which segments of the earnings distribution are considered. By the time they reached 40, young men who entered the labour market during the early 2000s and who were at the 75th or 90th percentile of the earnings distribution had higher annual wages than their counterparts who entered the labour market in the late 1970s. The opposite is true for young men who were at the 25th or 50th percentile of the earnings distribution.

This finding has important implications. It indicates that previous results regarding the deterioration in entry-level wages of young men and the convergence (or lack thereof) of their wages with those of previous cohorts must be nuanced.

The story for young women is simpler. Regardless of the segment of the earnings distribution considered, the annual wages at ages 39 to 40 and the cumulative annual wages generally increased across successive cohorts of young female employees.

The results of the study are useful for a variety of reasons. First, they make it clear that, collectively, young men have experienced a diverse set of trends as they progressed in their career, depending on their position in the earnings distribution. As such, the results highlight the usefulness of large data sets that allow rigorous analyses at the tails of the earnings distribution. Second, the numbers provided in the study quantify the degree to which the growing involvement of young women in the labour market has increased their cumulative earnings over the last few decades. On both aspects, they help improve one's understanding of the youth labour market.

1 Introduction

Changes in the employment prospects of youth and in their transitions to adulthood have attracted considerable attention over the last few years in Canada. Several studies have documented the evolution of wages, employment rates and job types of young men and women. Other research has shown that key life events such as schooling completion, leaving one's parents' home, marriage and family formation now occur later than they did in the 1970s.

One key finding from previous studies is that the youth labour market has changed along several dimensions since the mid-1970s. For young individuals not enrolled in school, full-time jobs have generally become scarcer than they were during the mid-1970s (Morissette, Hou and Schellenberg 2015). In addition, the percentage of full-time jobs that are permanent fell (Morissette 2016).[1] Third, median real hourly wages of young men employed in full-time jobs grew little, if at all, from the early 1980s to the mid-2010s.[2] Along with other pieces of evidence from media reports, these facts have raised concerns that recent youth cohorts now experience less favourable earnings trajectories as they age than previous cohorts did 40 years ago.

Beaudry and Green (2000) examined this question for the first time in Canada several years ago. Using synthetic birth cohorts from the Survey of Consumer Finances (SCF), they showed that cohorts of young Canadian men entering the labour market between the mid-1980s and the early 1990s had less favourable earnings trajectories than previous cohorts entering the labour market in the mid-1960s or early 1970s.[3] In contrast, university-educated young women who entered the labour market in the early 1990s had more favourable age–earnings profiles than their counterparts who did so in the mid-1960s or early 1970s.[4]

This article revisits the issue of wage convergence with previous cohorts using more recent data drawn from larger data sets than those used in the aforementioned studies. The study combines three versions of Statistics Canada's Longitudinal Worker file (LWF) that cover the 1978-to-2015 period and measures the annual wages of young workers as they move from their late 20s to age 40.

The LWF uses records from the T4 Statement of Remuneration Paid to measure annual wages for a 10% random sample of Canadian workers.[5] Because of its large sample size, the LWF yields accurate measurements of annual wages and allows analyses that focus not only on median annual wages, but also on wages at the 10th, 25th, 75th, and 90th percentiles of the earnings distribution. This feature is particularly important in light of the growth in income inequality observed in Canada since the early 1980s (Lemieux and Riddell 2015).[6]

As will be shown below, one key finding of the study is that cross-cohort comparisons of age–earnings profiles of young men yield quite different conclusions, depending on the segment of the earnings distribution that is considered. This finding has important implications. It indicates that previous results regarding the deterioration in entry-level wages of young men and the convergence (or lack thereof) of their wages with those of previous cohorts must be nuanced.

---

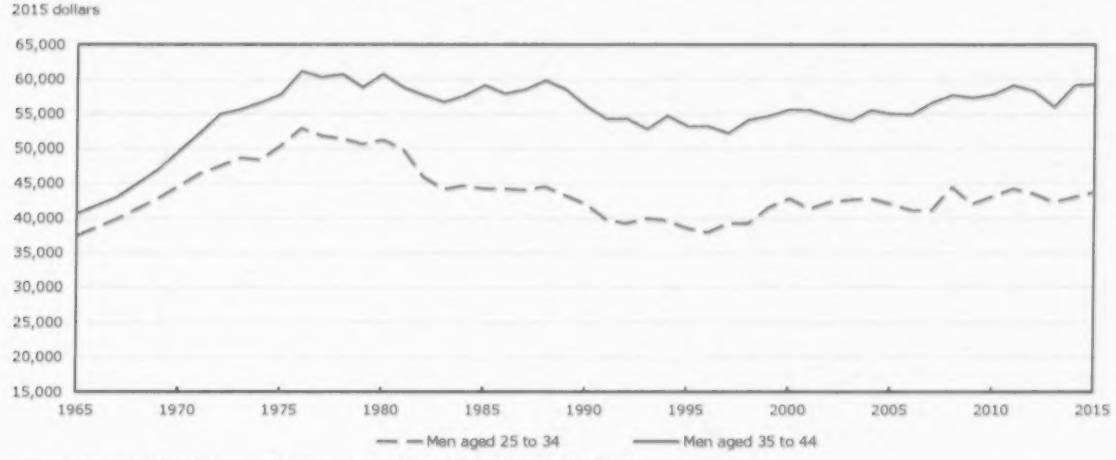
1. While declines in the relative importance of full-time jobs or permanent jobs are also observed among older men, the magnitude of these changes is greater among young men.
2. The wage growth young men experienced from the mid-2000s to the mid-2010s either simply offset or partially offset the wage declines they experienced from the early 1980s to the mid-1990s (Morissette 2016).
3. Using various household surveys from 1981 to 2007, Green and Townsend (2010) constructed job start cohorts for high-school-educated males aged 20 to 64. They found that "entry wages for successive cohorts declined until 1997 and then began to recover. Wage profiles steepened for cohorts entering after 1997, but not for cohorts entering in the 1980s" (Green and Townsend 2010, p. 373). While this latter set of results pertain to the wage–tenure profiles of young and older male workers after they enter a new job, they complement those of Beaudry and Green (2000).
4. Beaudry and Green (2000) and Green and Townsend (2010) analyze average weekly earnings (including self-employment income) and average hourly wages, respectively.
5. Because tax filing incentives for low earners changed during the 1978-to-2015 period, data based on T4 records are better suited than those based on T1 income tax forms for producing time-consistent estimates of annual wages.
6. Contrary to the SCF or the Canadian Income Survey (CIS), the LWF has no information on workers' educational attainment. This precludes separate analyses for highly educated workers and less educated workers.

2 Background

To provide some context, Chart 1 shows the evolution of the median real annual wages and salaries of men aged 25 to 34 and those aged 35 to 44 over the 1965-to-2015 period.[7] After experiencing robust wage growth from the mid-1960s to the late 1970s, both groups of men saw their median wages fall from the early 1980s to the mid-1990s. The net result was that by 2015, median wages of men aged 25 to 34 were substantially lower than those of their counterparts of the same age in 1977. In contrast, the growth in earnings that men aged 35 to 44 experienced from the mid-1990s onwards brought back their earnings in 2015 to levels similar to the peaks observed in the late 1970s.

Because of changes in their occupational profile and movements towards full-time employment, women aged 25 to 34 and those aged 35 to 44 did not experience the same wage patterns. The median wages of women aged 35 to 44 grew steadily (Chart 2). By 2015, they earned more than twice as much as their counterparts did in the mid-1960s. Median wages of women aged 25 to 34 grew rapidly from the mid-1960s to the late 1970s but stagnated up until the late 1990s. They started rising again after 1997.

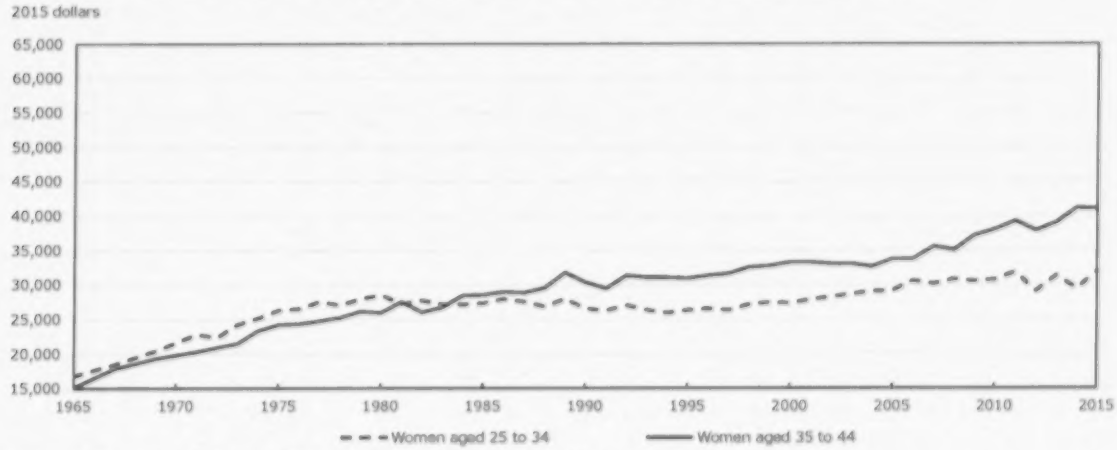
Chart 1
Median real annual wages and salaries of men aged 25 to 34 and 35 to 44, 1965 to 2015



Sources: Statistics Canada, Survey of Consumer Finances and CANSIM table 206-0052.

7. Data from the SCF, the Survey of Labour and Income Dynamics (SLID) and the CIS are combined.

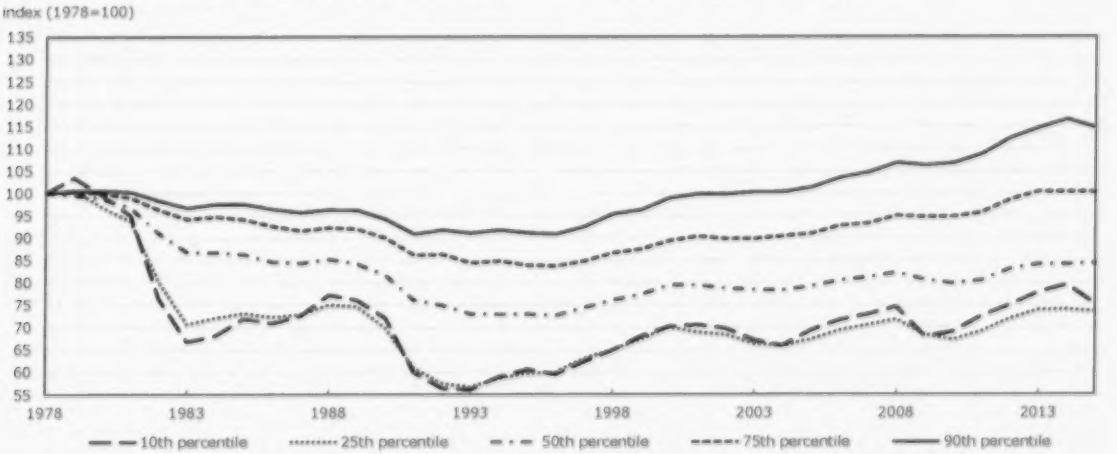
Chart 2
Median real annual wages and salaries of women aged 25 to 34 and 35 to 44, 1965 to 2015



Sources: Statistics Canada, Survey of Consumer Finances and CANSIM table 206-0052.

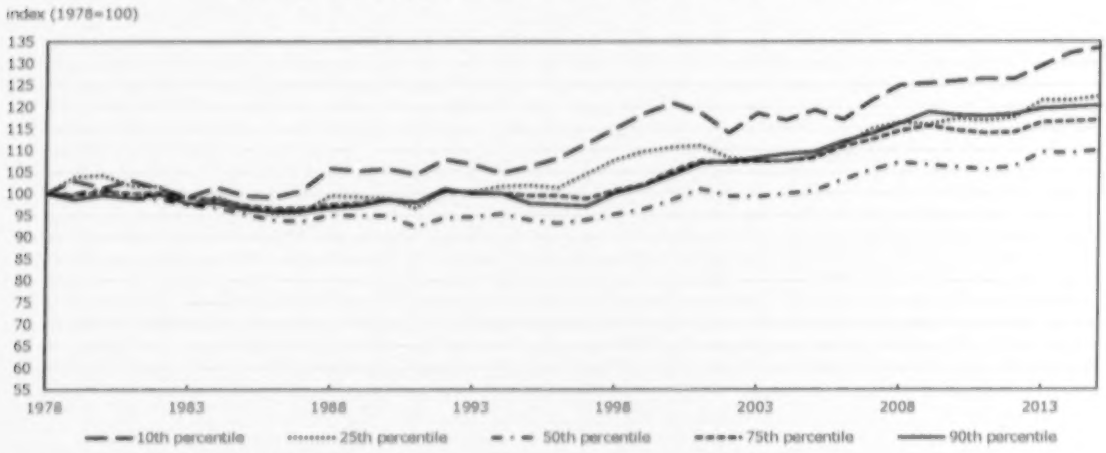
The drop in the real wages of young men that occurred from the early 1980s onwards varied markedly across segments of the earnings distribution. Median real annual wages of men aged 28 to 29 fell 27% from 1978 to 1996 (Chart 3 and Table 1). However, real annual wages of their counterparts at the 10th percentile of the earnings distribution fell 40%, more than four times the 9% drop observed for young men at the 90th percentile of the earnings distribution.

Chart 3
Indexed real annual wages of men aged 28 to 29, at selected percentiles, 1978 to 2015



Source: Statistics Canada, Longitudinal Worker File.

Chart 4
Indexed real annual wages of women aged 28 to 29, at selected percentiles, 1978 to 2015



Source: Statistics Canada, Longitudinal Worker File.

While wages of young men generally increased after 1996 (with 2008-2009 being a notable exception), the gains experienced by those in the bottom half of the earnings distribution did not offset the losses they experienced earlier. For example, median annual wages were 15% lower in 2015 than they were in 1978. Only young men at the 75th percentile of the earnings distribution ended up having similar wages in 2015 and 1978. In contrast, young men at the 90th percentile earned 15% more in 2015 than their counterparts did in 1978. Wages of young women displayed more favourable patterns. By 2015, young women in all segments of the earnings distribution—especially those at the 10th percentile—earned higher wages than their counterparts did in 1978 (Chart 4 and Table 2).

By the time the 1996 cohort of young men turned 39 or 40 years old (in 2007), had their annual wages converged to those of the 1978 cohort (measured in 1989) or were they still lower? Did annual wages of the 2004 cohort of young men, measured at ages 39 to 40 in 2015, eventually exceed those of the 1978 cohort? The next section answers these questions.

3 Wages up to the age of 40

To answer these questions, synthetic birth cohorts are constructed. The 1978 cohort consists of paid workers who were aged 28 to 29 in 1978. The 2004 cohort consists of their counterparts who were aged 28 to 29 in 2004. Ten other cohorts (aged 28 to 29 in 1984, 1986, 1988, 1990, 1992, 1994, 1996, 1998, 2000, 2002) are constructed (see Appendix for details).[8]

Each of these 12 cohorts is tracked over a 12-year period, i.e., from ages 28 to 29 to ages 39 to 40. For example, the 1978 cohort is tracked from 1978 to 1989, at which point its members are aged 39 to 40. Likewise, the 2004 cohort is tracked from 2004 to 2015, the latest year for which LWF data are currently available.

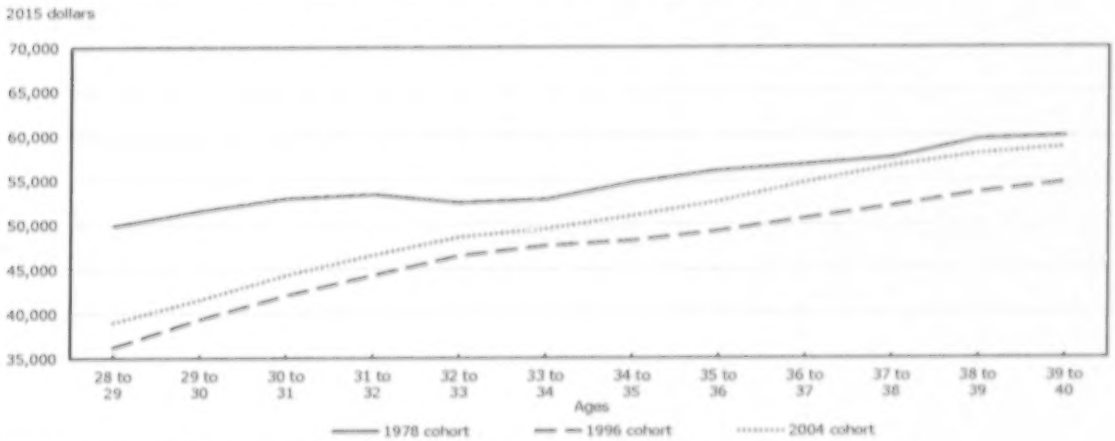
It is important to note that the composition of individuals within a given cohort may change over time as some Canadian-born paid workers move in or out of the labour market, immigrate to other countries or die and as some immigrants enter or leave a given cohort of paid workers. Hence, the earnings trajectories obtained with these synthetic birth cohorts are not necessarily

8. Since the 1978–1989 LWF contains no data on self-employment income, the earnings concept used in the study consists of annual wages and excludes self-employment income.

representative of those experienced by paid workers who were in the labour market for 12 consecutive years. Nevertheless, they provide valuable information. They measure the degree to which members of a given cohort of paid workers, taken collectively, fared well or not over a given 12-year period.[9]

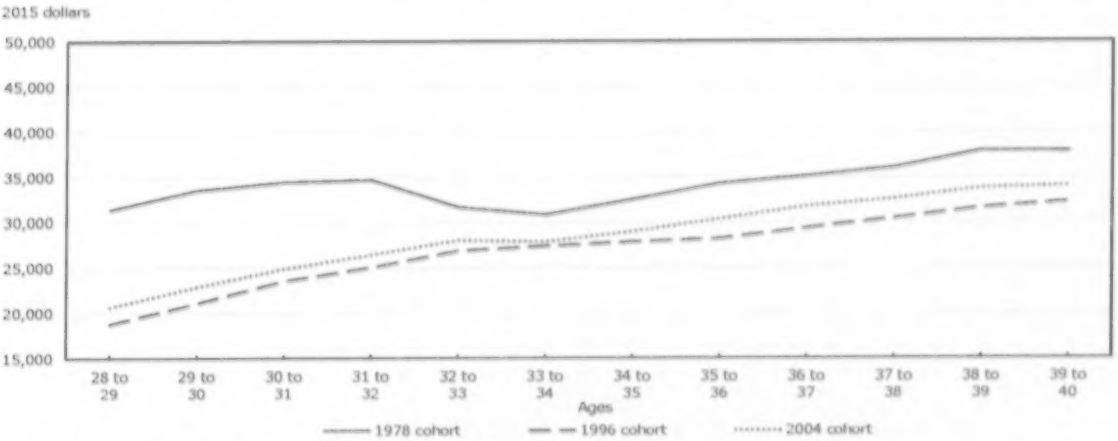
Table 3 and Chart 5 provide a first look at this issue. They show how median real annual wages of various cohorts of young male and female employees have evolved from ages 28 to 29 to ages 39 to 40.

Chart 5
Median real annual wages of young men, from ages 28 to 29 to ages 39 to 40, selected cohorts



Note: The composition of individuals within a given cohort may change over time.
Source: Statistics Canada, Longitudinal Worker File.

Chart 6
Real annual wages of young men at the 25th percentile, from ages 28 to 29 to ages 39 to 40, selected cohorts



Note: The composition of individuals within a given cohort may change over time.
Source: Statistics Canada, Longitudinal Worker File

9. Since the LWF is a panel data set, one could in principle follow the same individuals over time. Because the 1978–1989 LWF cannot identify spurious changes in person identifiers, the number of such false changes in this file is likely greater than in subsequent versions of the LWF. This raises comparability issues when using the three versions of the LWF in panel data analyses. For this reason, attention is restricted to cohort-level analyses rather than panel data analyses.

Most of the numbers shown in Table 3 for young men can be summarized by Chart 5. Young men who entered the labour market in 1996 had, at ages 28 to 29, lower median annual wages than their counterparts in 1978. While wages of the 1996 cohort grew over time, they had not converged to those of the 1978 cohort by the time both cohorts were aged 39 to 40. In contrast, the median annual wages of young men who entered the workforce in 2004 had almost fully converged to those of the 1978 cohort at ages 39 to 40.

More generally, young men who entered the labour market after 1978 earned less than the 1978 cohort not only at ages 28 to 29 but also at ages 39 to 40. However, the difference was smaller for the 2002 and 2004 cohorts than it was for previous cohorts. As a result, median cumulative earnings over the first 12 years in the workforce were lower for the cohorts that entered the labour market after 1978. For example, median cumulative earnings of young men who entered the workforce from 1990 to 1996 were 15% lower than those of the 1978 cohort. In contrast, the 2002 and 2004 cohorts of young men had median cumulative earnings that were about 10% lower than those of the 1978 cohort.

Similar qualitative patterns are observed in Table 4 when the focus is on wages at the 10th percentile and in Table 5 and Chart 6 when the focus is on wages at the 25th percentile.[10] Cumulative earnings at the 25th percentile for young men who entered the workforce from 1990 to 1996 were 21% to 24% lower than those of young men who entered the workforce in 1978. The corresponding declines for the 2002 and 2004 cohorts varied between 17% and 18%.

In sum, young men who were in the lower half of the earnings distribution and belonged to the 1984-to-2004 cohorts had lower annual wages at ages 28 to 29 and ages 39 to 40 than their counterparts who were members of the 1978 cohort. As a result, their cumulative earnings were also lower.

A different story is observed in the upper half of the earnings distribution. Considering young men in the 75th percentile of the earnings distribution, those in the 1984-to-2004 cohorts had lower annual wages at ages 28 to 29 than their counterparts in the 1978 cohort. However, by the time they reached ages 39 to 40, young men in the 2002 and 2004 cohorts earned almost $8,000 more than those in the 1978 cohort (Table 6 and Chart 7). In fact, cumulative earnings of young men at the 75th percentile were 2% to 4% higher for the 2002 and 2004 cohorts than they were for the 1978 cohort.

Numbers at the 90th percentile provide an even sharper contrast. In this case, wages at ages 28 to 29 were roughly the same for members of the 2002 and 2004 cohorts and those of the 1978 cohort (Table 7). Because annual wages subsequently grew faster for the 2002 and 2004 cohorts than they did for the 1978 cohort, members of the 2002 and 2004 cohorts ended up, by the time they reached ages 39 to 40, earning roughly $20,000 more than their counterparts in the 1978 cohort (Chart 8). As a result, the more recent cohorts had cumulative earnings that were 12% to 15% higher than those of the 1978 cohort.

Taken together, Tables 3 to 7 and Charts 5 to 8 highlight an important finding: cross-cohort comparisons of age–earnings profiles of young men yield quite different conclusions, depending on the segment of the earnings distribution that is considered. Recent cohorts of young men—those aged 28 to 29 in 2002 or 2004—had lower cumulative earnings than those in the 1978 cohort at the 10th, 25th or 50th percentile but had higher cumulative earnings when the focus is on the 75th and 90th percentile.[11] Hence, while some young men are faring worse in the labour market than their counterparts did in the late 1970s, others are faring better.

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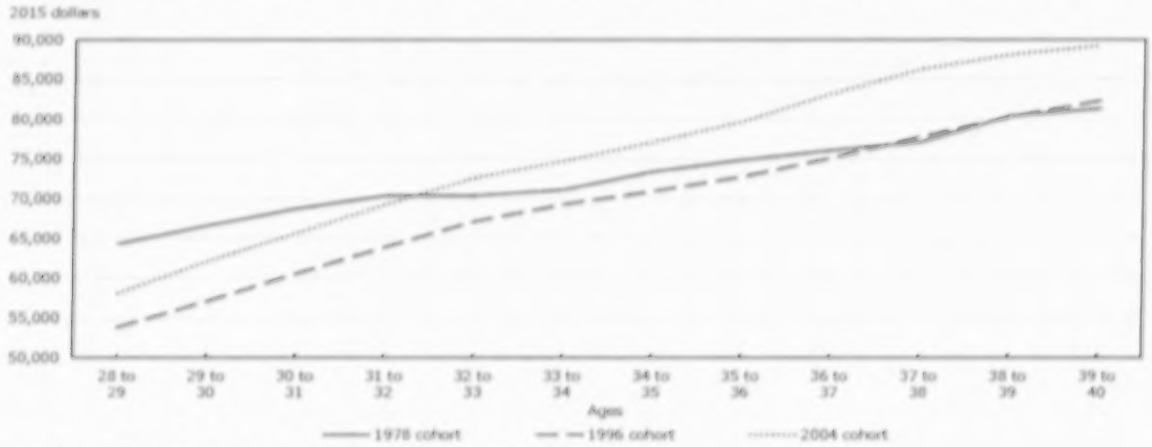
10. The drop in earnings observed for the 1978 cohort after ages 31 to 32 largely reflects the 1981-1982 recession.
11. It is important to note that the dispersion of cumulative earnings across percentiles will be greater than the dispersion of individuals' lifetime earnings because of relative wage mobility, i.e., the fact that individuals move up or down the earnings distribution as they age.

On average, the 2002 and 2004 cohorts of young men earned more when they reached the ages of 39 and 40, than their counterparts did in the 1978 cohort (Table 8 and Chart 9). They also had higher average cumulative earnings. In contrast, the 1984-to-1998 cohorts earned less, on average, on a cumulative basis than the 1978 cohort.

The story for young women is simpler. Regardless of the segment of the earnings distribution considered, the annual wages at ages 39 to 40 and the cumulative annual wages generally increased across successive cohorts of young female employees.

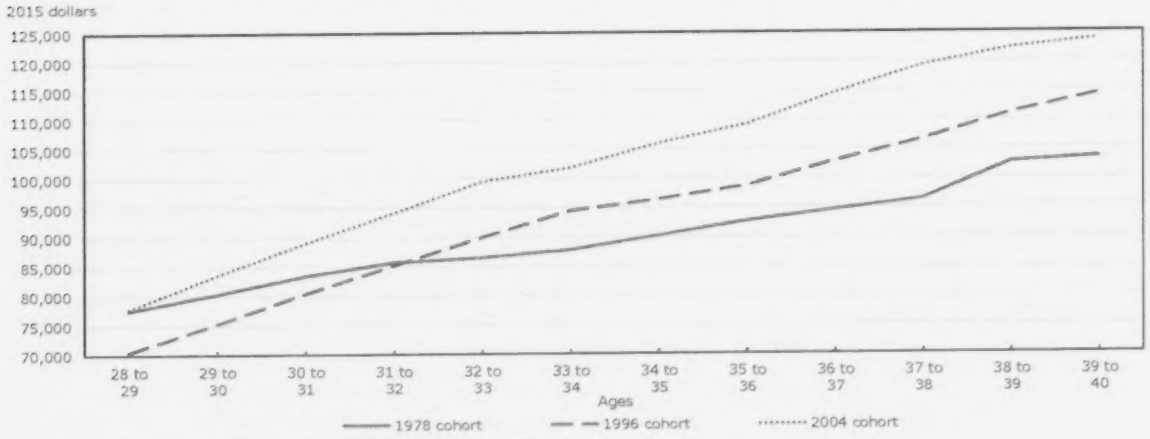
There are several reasons why the cumulative earnings of young female employees evolved more favorably than those of their male counterparts since the mid- to late 1970s. First, young women increased their educational attainment—and thus, their ability to hold highly paid jobs—faster than young men over the last four decades. Second, as they became more career-oriented than previous generations, women aged 25 and over moved away from part-time jobs and increased their tenure with their employers since the mid-1970s. Both of these factors tended to increase their annual wages. Third, young women moved to better paid occupations, increasing their presence in fields of study such as business, life sciences and social sciences.

Chart 7
Real annual wages of young men at the 75th percentile, from ages 28 to 29 to ages 39 to 40, selected cohorts



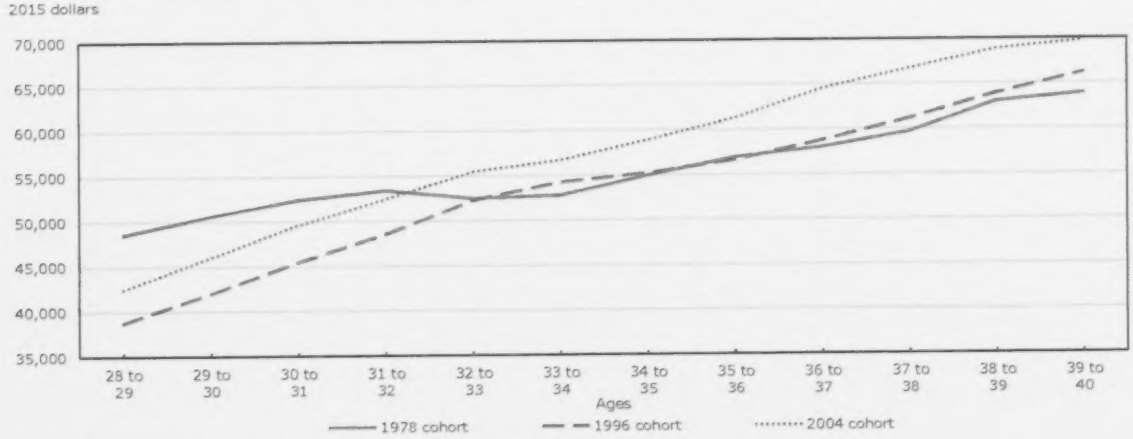
Note: The composition of individuals within a given cohort may change over time.
Source: Statistics Canada, Longitudinal Worker File.

Chart 8
Real annual wages of young men at the 90th percentile, from ages 28 to 29 to ages 39 to 40, selected cohorts



Note: The composition of individuals within a given cohort may change over time.
Source: Statistics Canada, Longitudinal Worker File.

Chart 9
Mean real annual wages of young men, from ages 28 to 29 to ages 39 to 40, selected cohorts



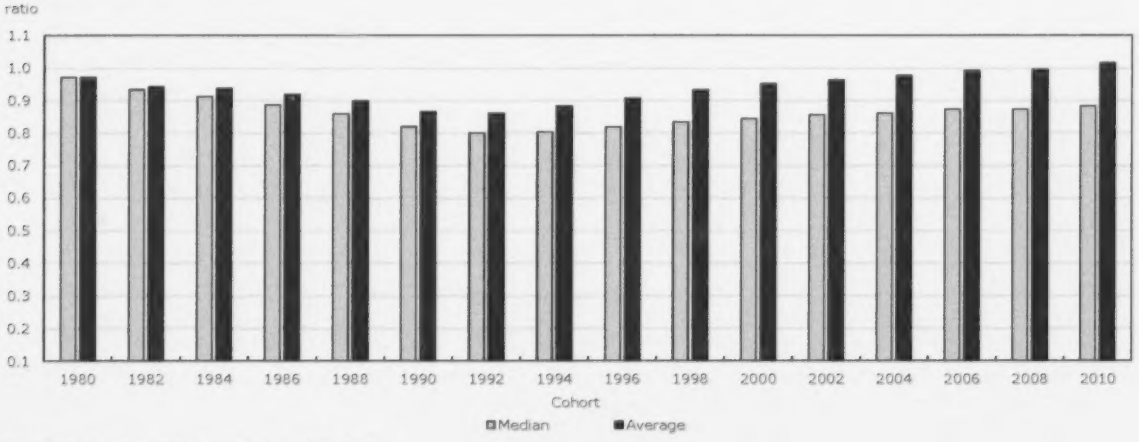
Note: The composition of individuals within a given cohort may change over time.
Source: Statistics Canada, Longitudinal Worker File.

4 Wages up to the age of 34

Because the results shown so far are based on tracking several cohorts over periods of 12 years, the most recent cohort that has been considered was aged 28 to 29 in 2004. To allow analyses that involve more recent cohorts, cohorts of paid workers are now followed over a shorter period, i.e., over 6 years. This allows a comparison of the 2010 cohort with previous cohorts. For compactness, only median and average cumulative earnings are considered.

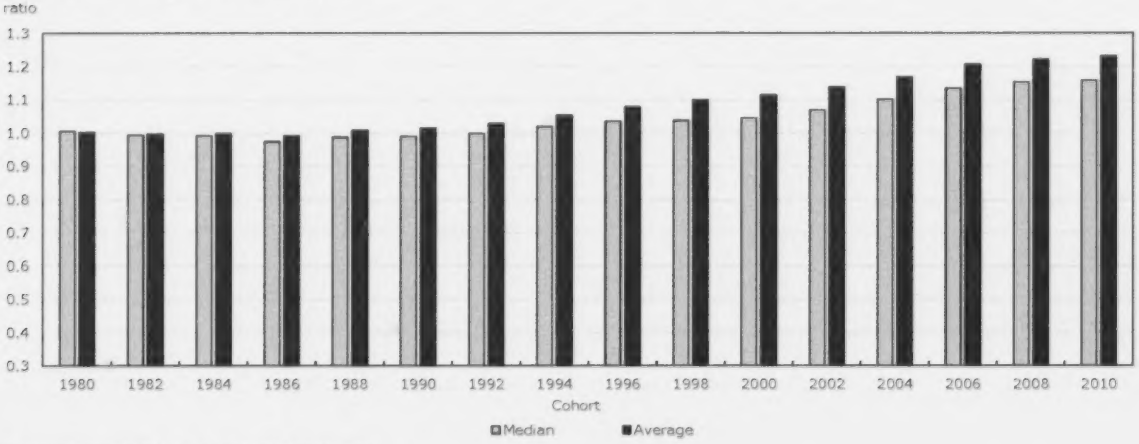
The results show that the 2010 cohort of young men had, from ages 28 to 29 to ages 33 to 34, 12% lower median cumulative earnings than the 1978 cohort (Table 9 and Chart 10). However, average cumulative earnings of the 2010 cohort were slightly higher than those of the 1978 cohort, reflecting growing earnings dispersion across cohorts. In contrast, both average and median cumulative earnings of the 2010 cohort of young women are higher than those of their counterparts in the 1978 cohort (Chart 11).

Chart 10
Cumulative earnings received from ages 28 to 29 to ages 33 to 34 by the 1980-to-2010 cohorts of young men, relative to the 1978 cohort



Source: Statistics Canada, Longitudinal Worker File.

Chart 11
Cumulative earnings received from ages 28 to 29 to ages 33 to 34 by the 1980-to-2010 cohorts of young women, relative to the 1978 cohort



Source: Statistics Canada, Longitudinal Worker File.

5 Conclusion

While it is well known that real wages of young men fell during the 1980s and 1990s, it was unclear whether the wages of cohorts that entered the labour market during the early 2000s eventually converged to those of earlier cohorts. Using data from Statistics Canada's Longitudinal Worker File, this study fills this gap.

The main finding is that the degree of wage convergence that recent cohorts of young men have achieved relative to the 1978 cohort depends critically on which segments of the earnings distribution are considered. By the time they reached 40, young men who entered the labour market during the early 2000s and who were at the 75th or 90th percentile of the earnings distribution had higher annual wages than their counterparts who entered the labour market in the late 1970s. The opposite is true for young men who were at the 25th or 50th percentile of the earnings distribution.

A few limitations must be noted. Because the LWF contains no data on educational attainment or immigration status, no disaggregation was performed by workers' education level or immigration status. Hence, it was not possible to compare the evolution of the age–earnings profiles of highly educated young workers with that of their less educated counterparts.

Because the LWF starts in 1978, earnings trajectories of cohorts that entered the labour market during the 2000s could not be compared with those of their counterparts who entered the workforce during the mid-1960s or early 1970s. As Chart 1 suggests, it is conceivable that the late 1970s represented a relatively short-lived 'golden era' for labour market entry.[12] This possibility implies that the computation of unemployment-adjusted earnings trajectories would be a worthwhile exercise for future research.

Nevertheless, the results are useful for a variety of reasons. First, they make it clear that, collectively, young men have experienced a diverse set of trends as they progressed in their career, depending on their position in the earnings distribution. As such, the results highlight the usefulness of large data sets that allow rigorous analyses at the tails of the earnings distribution. Second, they quantify the degree to which the growing involvement of young women in the labour market has increased their cumulative earnings over the last few decades. On both aspects, they help improve one's understanding of youth labour market.

12. A counter-argument is that even though the 1978 cohort of young men experienced the 1981-1982 recession, it had higher median cumulative earnings than the 1996 cohort, which experienced 12 years of economic expansion, from 1996 to 2007.

6 Tables

Table 1
Real annual wages of men aged 28 to 29, at selected percentiles, 1978 to 2015

	Percentile				
Year	10th	25th	50th	75th	90th
	2015 dollars				
1978	12,717	31,395	49,861	64,274	77,518
1979	13,153	31,604	49,618	64,428	77,945
1980	12,649	30,383	49,236	64,231	77,990
1981	12,082	29,421	48,229	63,619	77,694
1982	9,714	25,163	45,365	61,861	76,207
1983	8,490	22,203	43,256	60,503	74,923
1984	8,663	22,634	43,222	60,860	75,603
1985	9,146	22,941	43,010	60,469	75,605
1986	9,013	22,683	42,177	59,508	74,730
1987	9,225	22,873	42,051	58,874	74,153
1988	9,823	23,549	42,472	59,315	74,649
1989	9,673	23,420	41,955	59,108	74,533
1990	9,159	21,905	40,683	57,819	72,958
1991	7,628	19,128	37,910	55,343	70,390
1992	7,174	18,034	37,355	55,464	71,105
1993	7,127	17,786	36,387	54,231	70,535
1994	7,491	18,396	36,355	54,473	71,103
1995	7,709	18,743	36,381	53,906	70,603
1996	7,565	18,809	36,213	53,794	70,420
1997	7,925	19,785	37,098	54,504	71,732
1998	8,246	20,382	37,912	55,671	73,917
1999	8,648	21,134	38,563	56,223	74,631
2000	8,928	21,989	39,597	57,432	76,659
2001	8,974	21,628	39,575	58,040	77,354
2002	8,867	21,459	39,251	57,689	77,331
2003	8,537	20,824	39,090	57,721	77,709
2004	8,383	20,677	39,026	58,104	77,745
2005	8,817	21,116	39,460	58,449	78,510
2006	9,106	21,747	40,130	59,595	80,186
2007	9,272	22,133	40,468	59,932	81,106
2008	9,482	22,531	40,971	61,002	82,764
2009	8,640	21,470	40,186	60,834	82,336
2010	8,775	21,100	39,790	60,884	82,700
2011	9,220	21,688	40,153	61,482	84,276
2012	9,535	22,576	41,412	63,319	87,062
2013	9,890	23,184	41,921	64,490	88,823
2014	10,112	23,210	41,920	64,446	90,319
2015	9,558	23,089	42,047	64,437	88,853

Note: Percentiles are gender-specific.

Source: Statistics Canada, Longitudinal Worker File.

Table 2
Real annual wages of women aged 28 to 29, at selected percentiles, 1978 to 2015

	Percentile				
Year	10th	25th	50th	75th	90th
	2015 dollars				
1978	4,776	12,640	28,578	42,522	57,051
1979	4,914	13,119	28,564	42,348	56,256
1980	4,835	13,167	28,878	42,734	56,810
1981	4,915	12,859	28,241	42,523	56,429
1982	4,830	12,837	28,211	42,591	56,912
1983	4,737	12,313	27,850	42,101	55,762
1984	4,843	12,543	27,629	41,930	55,802
1985	4,749	12,243	27,232	41,346	54,937
1986	4,731	12,054	26,824	41,032	54,672
1987	4,808	12,087	26,730	41,072	54,670
1988	5,051	12,577	27,154	41,432	55,178
1989	5,022	12,533	27,122	41,560	55,435
1990	5,046	12,492	27,114	41,954	56,167
1991	4,984	12,210	26,386	41,668	55,880
1992	5,150	12,723	26,977	42,700	57,651
1993	5,092	12,693	27,017	42,620	56,994
1994	4,998	12,846	27,224	42,514	57,035
1995	5,071	12,877	26,833	42,284	55,714
1996	5,164	12,812	26,602	42,278	55,593
1997	5,322	13,206	26,833	42,013	55,371
1998	5,490	13,618	27,218	42,828	57,095
1999	5,653	13,861	27,525	43,389	58,062
2000	5,770	13,984	28,136	44,715	59,503
2001	5,654	14,027	28,870	45,696	60,969
2002	5,440	13,670	28,389	45,541	61,235
2003	5,656	13,596	28,374	45,683	61,742
2004	5,580	13,581	28,546	45,713	62,231
2005	5,694	13,749	28,748	46,016	62,529
2006	5,585	14,047	29,470	47,119	63,884
2007	5,797	14,506	30,118	47,788	64,882
2008	5,966	14,705	30,624	48,632	66,227
2009	5,989	14,641	30,461	49,149	67,753
2010	6,016	14,817	30,298	48,700	67,358
2011	6,040	14,762	30,164	48,442	67,243
2012	6,035	14,847	30,352	48,492	67,478
2013	6,186	15,360	31,298	49,485	68,223
2014	6,325	15,352	31,220	49,577	68,416
2015	6,381	15,462	31,420	49,702	68,603

Note: Percentiles are gender-specific.

Source: Statistics Canada, Longitudinal Worker File.

Table 3
Median real annual wages of young men and women, from ages 28 to 29 to ages 39 to 40, selected cohorts

	Ages												Cumulative earnings
	28 to 29	29 to 30	30 to 31	31 to 32	32 to 33	33 to 34	34 to 35	35 to 36	36 to 37	37 to 38	38 to 39	39 to 40	
	2015 dollars												
Cohort of young men													
1978	49,861	51,554	52,951	53,408	52,462	52,845	54,737	56,080	56,756	57,524	59,597	59,916	657,689
1984	43,222	45,249	46,671	48,453	50,425	51,416	51,291	50,299	51,731	51,885	53,251	53,678	597,572
1986	42,177	44,362	46,783	48,254	48,397	47,543	48,771	49,350	51,043	51,661	52,227	53,121	583,688
1988	42,472	44,470	45,267	44,562	45,813	46,449	48,352	49,299	50,310	51,312	52,728	53,796	574,833
1990	40,683	40,176	41,656	42,815	44,817	46,168	47,303	48,825	50,512	51,534	52,645	53,093	560,227
1992	37,355	38,601	41,217	42,772	44,224	46,110	47,839	49,470	50,786	51,601	52,057	52,490	554,521
1994	36,355	38,668	40,699	42,925	45,460	47,294	48,840	49,677	50,563	51,021	52,378	53,373	557,251
1996	36,213	39,364	42,054	44,307	46,486	47,632	48,183	49,261	50,684	52,043	53,583	54,717	564,527
1998	37,912	40,822	43,449	45,114	46,254	47,368	48,915	50,605	52,265	53,825	55,295	55,329	577,152
2000	39,597	41,719	43,241	44,675	46,609	48,413	50,584	52,241	53,804	53,613	55,034	56,168	585,698
2002	39,251	41,534	43,428	45,713	47,822	50,060	51,884	51,694	53,524	55,093	56,470	58,216	594,689
2004	39,026	41,563	44,321	46,575	48,603	49,515	50,966	52,589	54,757	56,553	57,948	58,699	601,114
Cohort of young women													
1978	28,578	28,230	28,375	28,110	28,763	29,074	29,100	29,660	30,064	30,646	32,113	32,507	355,221
1984	27,629	27,749	27,911	28,062	28,795	29,385	29,747	29,911	31,613	31,858	32,928	33,344	358,931
1986	26,824	27,235	27,672	27,989	28,372	28,452	30,053	30,652	31,424	31,880	32,382	33,194	356,129
1988	27,154	27,449	27,892	27,672	29,123	29,604	30,338	30,809	31,479	32,208	33,293	34,160	361,181
1990	27,114	26,693	27,658	28,512	29,385	29,888	30,213	30,915	31,934	32,842	33,501	33,998	362,654
1992	26,977	27,395	28,129	28,654	29,295	30,240	31,346	32,276	32,809	33,632	33,876	34,809	369,437
1994	27,224	27,554	28,480	29,394	30,460	31,228	32,164	32,750	32,986	33,720	34,873	35,724	376,557
1996	26,602	28,009	29,118	30,235	31,161	31,917	31,853	32,709	33,681	34,404	35,765	37,367	382,821
1998	27,218	28,641	29,876	30,442	30,198	31,110	31,820	32,960	34,556	35,978	37,405	38,706	388,912
2000	28,136	29,394	29,223	29,752	30,682	31,665	33,003	34,377	35,870	37,420	38,122	38,866	396,511
2002	28,389	28,844	29,866	30,663	31,765	33,263	34,618	35,896	37,033	37,812	38,965	40,407	407,522
2004	28,546	29,656	30,563	31,935	33,038	34,527	35,259	36,310	37,560	39,076	40,174	41,308	417,951

Note: Percentiles are gender-specific. The composition of individuals in a given cohort may change over time as some Canadian-born individuals move in or out of the labour market, emigrate to other countries or die and as some immigrants enter or leave a given cohort of paid workers.

Source: Statistics Canada, Longitudinal Worker File.

Table 4
Real annual wages of young men and women at the 10th percentile, from ages 28 to 29 to ages 39 to 40, selected cohorts

	Ages												Cumulative earnings
	28 to 29	29 to 30	30 to 31	31 to 32	32 to 33	33 to 34	34 to 35	35 to 36	36 to 37	37 to 38	38 to 39	39 to 40	
	2015 dollars												
Cohort of young men													
1978	12,717	14,441	15,036	14,971	12,649	11,994	12,668	13,755	14,085	14,496	15,784	15,766	168,362
1984	8,663	9,618	10,309	11,102	11,921	12,405	12,320	10,730	10,794	10,960	12,216	12,693	133,732
1986	9,013	9,768	10,748	11,490	11,375	10,075	9,927	10,342	11,242	11,649	12,265	13,067	130,960
1988	9,823	10,311	10,388	9,552	9,506	9,720	10,425	11,139	11,414	12,415	13,327	13,834	131,854
1990	9,159	8,133	8,092	8,509	9,666	10,248	10,772	11,274	12,438	13,055	13,541	13,992	128,878
1992	7,174	7,460	8,427	9,070	9,638	10,608	11,233	12,120	12,722	13,088	13,263	13,293	128,097
1994	7,491	8,258	8,700	9,751	10,753	11,089	12,131	12,300	12,621	12,802	13,123	13,669	132,687
1996	7,565	8,403	9,390	10,257	11,231	11,263	11,457	11,491	12,092	12,563	13,325	13,749	132,786
1998	8,246	9,076	10,336	10,377	10,847	11,043	11,469	12,126	12,959	13,625	13,980	13,038	137,124
2000	8,928	9,429	9,827	10,374	11,105	11,660	12,607	13,072	13,697	12,688	13,245	14,160	140,794
2002	8,867	9,053	9,735	10,644	11,726	12,234	12,628	11,898	13,040	14,211	14,721	15,011	143,767
2004	8,383	9,609	10,492	11,184	11,940	11,620	12,212	13,344	14,242	14,433	15,370	15,381	148,211
Cohort of young women													
1978	4,776	4,710	4,658	4,814	5,025	4,952	5,059	5,254	5,502	5,456	6,263	6,638	63,107
1984	4,843	4,806	4,884	5,052	5,338	5,541	5,749	5,583	5,921	6,307	6,319	6,601	66,944
1986	4,731	4,862	4,968	5,228	5,348	5,258	5,698	5,755	6,134	6,298	6,368	6,773	67,421
1988	5,051	5,052	5,253	5,090	5,414	5,455	5,673	5,957	5,985	6,403	6,938	7,459	69,730
1990	5,046	4,939	5,093	5,324	5,426	5,635	5,723	6,039	6,404	6,852	7,120	7,476	71,077
1992	5,150	5,224	5,327	5,470	5,595	6,012	6,379	6,487	6,836	7,041	7,025	7,728	74,272
1994	4,998	5,240	5,386	5,792	5,965	6,194	6,330	6,670	6,816	7,058	7,432	7,829	75,710
1996	5,164	5,476	5,843	6,112	6,295	6,362	6,163	6,404	6,808	7,336	7,700	8,118	77,781
1998	5,490	5,785	5,988	5,833	5,822	6,243	6,259	6,487	6,989	7,457	8,078	8,476	78,905
2000	5,770	5,623	5,490	5,829	5,967	6,183	6,576	6,805	7,198	7,857	8,280	8,711	80,289
2002	5,440	5,585	5,640	5,825	6,179	6,451	6,754	7,089	7,607	8,109	8,676	9,279	82,633
2004	5,580	5,817	5,925	6,088	6,496	6,723	7,121	7,710	7,929	8,568	8,754	9,523	86,234

Note: Percentiles are gender-specific. The composition of individuals in a given cohort may change over time as some Canadian-born individuals move in or out of the labour market, emigrate to other countries or die and as some immigrants enter or leave a given cohort of paid workers.

Source: Statistics Canada, Longitudinal Worker File.

Table 5
Real annual wages of young men and women at the 25th percentile, from ages 28 to 29 to ages 39 to 40, selected cohorts

	Ages												Cumulative earnings
	28 to 29	29 to 30	30 to 31	31 to 32	32 to 33	33 to 34	34 to 35	35 to 36	36 to 37	37 to 38	38 to 39	39 to 40	
	2015 dollars												
Cohort of young men													
1978	31,395	33,533	34,435	34,680	31,658	30,847	32,516	34,266	35,066	36,021	37,883	37,833	410,132
1984	22,634	24,512	25,861	27,650	29,372	30,318	29,906	28,164	28,377	28,806	30,204	30,934	336,737
1986	22,683	24,499	26,643	27,860	27,854	26,096	26,325	26,795	28,203	29,380	29,854	31,232	327,424
1988	23,549	25,250	25,391	23,858	24,133	24,970	26,407	27,706	28,566	29,649	31,251	32,479	323,208
1990	21,905	20,738	20,981	22,156	23,973	25,586	26,528	27,902	29,344	30,602	31,612	31,976	313,302
1992	18,034	19,265	21,453	22,966	24,158	26,086	27,640	28,989	30,328	30,792	31,021	31,019	311,731
1994	18,396	20,197	21,515	23,857	25,937	27,250	28,614	29,205	29,638	30,027	30,905	31,671	317,212
1996	18,809	21,084	23,541	25,026	26,859	27,376	27,828	28,188	29,334	30,415	31,563	32,228	322,251
1998	20,382	22,725	24,651	25,482	26,035	26,875	28,024	29,083	30,293	31,438	32,424	31,705	329,118
2000	21,989	23,339	24,135	24,904	26,386	27,973	29,220	30,657	31,527	30,234	31,647	32,320	334,332
2002	21,459	22,359	23,975	25,652	27,209	28,800	29,815	28,780	30,730	31,773	33,073	33,780	337,405
2004	20,677	22,898	24,896	26,434	28,021	27,856	28,985	30,361	31,748	32,563	33,764	34,000	342,203
Cohort of young women													
1978	12,640	12,686	12,738	12,934	13,206	13,121	13,325	13,769	14,127	14,335	15,822	16,357	165,060
1984	12,543	12,364	12,513	12,925	13,303	13,735	14,080	14,184	14,855	15,292	15,986	16,568	168,348
1986	12,054	12,220	12,687	13,123	13,172	13,225	14,155	14,402	14,873	15,559	15,965	16,745	168,181
1988	12,577	12,641	12,959	12,876	13,451	13,652	14,278	14,750	14,897	15,703	16,762	17,703	172,249
1990	12,492	12,258	12,726	13,223	13,684	14,136	14,285	14,902	15,665	16,353	17,290	17,588	174,602
1992	12,723	12,953	13,348	13,615	13,986	14,733	15,498	16,142	16,767	17,091	17,242	18,049	182,145
1994	12,846	13,192	13,678	14,191	15,055	15,436	15,925	16,398	16,772	17,206	17,953	18,688	187,339
1996	12,812	13,660	14,421	15,166	15,415	15,777	15,395	15,944	16,593	17,472	18,424	19,596	190,677
1998	13,618	14,309	15,000	14,837	14,651	15,175	15,643	16,407	17,464	18,430	19,516	20,141	195,192
2000	13,984	14,217	13,684	14,389	14,713	15,608	16,265	17,143	17,963	19,322	19,829	20,904	198,021
2002	13,670	13,702	14,222	14,772	15,611	16,467	17,303	17,982	18,853	19,808	20,809	21,936	205,136
2004	13,581	14,198	14,846	15,370	16,310	16,860	17,646	18,745	19,610	20,619	21,299	22,376	211,460

Note: Percentiles are gender-specific. The composition of individuals in a given cohort may change over time as some Canadian-born individuals move in or out of the labour market, emigrate to other countries or die and as some immigrants enter or leave a given cohort of paid workers.

Source: Statistics Canada, Longitudinal Worker File.

Table 6
Real annual wages of young men and women at the 75th percentile, from ages 28 to 29 to ages 39 to 40, selected cohorts

	Ages												Cumulative earnings
	28 to 29	29 to 30	30 to 31	31 to 32	32 to 33	33 to 34	34 to 35	35 to 36	36 to 37	37 to 38	38 to 39	39 to 40	
	2015 dollars												
Cohort of young men													
1978	64,274	66,597	68,707	70,359	70,345	71,108	73,372	74,838	76,074	77,117	80,412	81,320	874,525
1984	60,860	63,110	64,595	66,412	68,797	70,392	70,598	70,467	72,488	73,191	75,150	75,761	831,822
1986	59,508	61,601	64,347	66,210	66,920	68,744	69,040	69,815	72,193	73,251	74,424	76,614	820,668
1988	59,315	61,881	63,018	62,994	65,178	66,192	68,871	70,260	71,547	73,698	75,750	77,472	816,173
1990	57,819	58,072	60,445	61,839	64,372	66,153	67,628	70,119	72,401	74,345	76,294	77,410	806,896
1992	55,464	56,798	59,529	61,462	63,441	66,168	68,842	71,363	73,643	74,899	76,169	77,480	805,278
1994	54,473	56,685	59,508	62,432	65,532	68,136	70,848	72,589	74,492	75,738	77,637	79,757	817,830
1996	53,794	57,075	60,531	63,901	67,139	69,231	70,915	72,719	75,117	77,776	80,278	82,308	830,784
1998	55,671	59,503	63,037	65,710	67,791	69,753	72,313	75,355	78,228	80,704	83,179	84,359	855,603
2000	57,432	60,874	63,437	65,649	68,377	71,549	74,877	78,113	80,984	82,084	83,866	85,348	872,589
2002	57,689	60,720	63,724	67,201	70,922	74,054	77,593	78,795	81,229	83,348	86,342	89,103	890,720
2004	58,104	62,066	65,641	69,237	72,594	74,716	77,115	79,667	83,221	86,297	88,137	89,229	906,023
Cohort of young women													
1978	42,522	42,807	43,750	43,732	44,779	45,118	45,752	46,080	47,090	47,485	48,846	49,709	547,650
1984	41,930	42,490	42,901	43,476	44,343	45,269	46,454	46,384	48,657	49,003	50,258	50,507	551,672
1986	41,032	41,910	42,757	43,591	44,514	44,599	46,874	47,376	48,437	48,918	49,426	50,366	549,799
1988	41,432	42,477	43,607	43,937	46,117	46,327	47,507	48,109	48,661	49,646	50,941	52,371	561,132
1990	41,954	42,379	44,223	44,762	46,030	46,706	47,262	48,378	49,649	50,893	52,474	52,474	567,385
1992	42,700	43,260	44,365	44,869	45,612	47,080	48,532	49,702	51,325	51,854	52,843	53,735	575,878
1994	42,514	43,356	44,404	45,597	47,241	48,897	50,737	51,151	52,001	52,907	54,405	55,653	588,865
1996	42,278	43,608	45,460	47,209	49,127	50,008	50,492	51,622	52,992	54,405	56,393	58,432	602,025
1998	42,828	44,974	47,070	48,182	48,837	49,940	51,266	52,734	55,195	57,225	59,119	61,578	618,947
2000	44,715	46,843	47,489	48,363	49,644	51,141	52,889	55,270	57,184	59,903	60,902	62,617	636,960
2002	45,541	46,509	47,898	49,137	51,205	53,422	55,278	57,652	58,906	60,396	62,250	64,824	653,018
2004	45,713	47,436	49,057	51,042	52,798	55,332	56,309	58,070	59,800	62,394	64,143	66,220	668,313

Note: Percentiles are gender-specific. The composition of individuals in a given cohort may change over time as some Canadian-born individuals move in or out of the labour market, emigrate to other countries or die and as some immigrants enter or leave a given cohort of paid workers.

Source: Statistics Canada, Longitudinal Worker File.

Table 7
Real annual wages of young men and women at the 90th percentile, from ages 28 to 29 to ages 39 to 40, selected cohorts

	Ages												Cumulative earnings
	28 to 29	29 to 30	30 to 31	31 to 32	32 to 33	33 to 34	34 to 35	35 to 36	36 to 37	37 to 38	38 to 39	39 to 40	
	2015 dollars												
Cohort of young men													
1978	77,518	80,325	83,389	85,656	86,435	87,732	90,127	92,576	94,449	96,312	102,553	103,408	1,080,481
1984	75,603	78,144	80,235	82,607	86,228	88,393	90,023	90,416	92,879	93,858	96,261	98,067	1,052,716
1986	74,730	77,389	80,728	83,539	84,884	85,331	88,201	89,582	92,849	94,913	96,587	100,389	1,049,124
1988	74,649	77,724	79,845	80,499	83,479	84,967	88,212	90,639	93,045	96,872	101,536	103,703	1,055,168
1990	72,958	74,203	77,335	79,231	82,912	85,377	88,127	92,026	96,676	100,220	103,605	106,296	1,058,967
1992	71,105	73,641	77,561	80,401	83,166	87,171	92,127	95,630	99,954	102,842	104,584	105,765	1,073,948
1994	71,103	74,480	77,716	81,790	87,332	91,089	95,844	98,863	101,267	102,935	106,047	109,285	1,097,751
1996	70,420	75,275	80,389	85,138	89,906	94,364	96,326	98,608	102,779	106,478	111,003	114,255	1,124,940
1998	73,917	79,518	85,143	89,346	92,003	94,666	98,792	103,147	107,986	111,707	116,248	116,864	1,169,336
2000	76,659	81,460	85,397	88,312	92,886	97,555	102,204	106,791	111,064	112,792	115,938	118,222	1,189,281
2002	77,331	81,194	85,959	91,062	96,659	101,395	106,670	107,071	110,747	114,224	119,072	123,713	1,215,097
2004	77,745	83,589	89,033	94,131	99,483	101,778	105,955	109,182	114,520	119,243	122,154	123,756	1,240,569
Cohort of young women													
1978	57,051	57,288	59,235	60,315	62,271	62,367	63,365	64,372	64,878	66,541	68,268	69,062	755,012
1984	55,802	56,732	57,500	58,550	60,518	61,715	63,147	63,656	66,822	67,496	69,093	69,351	750,382
1986	54,672	56,442	57,963	59,192	60,665	61,129	64,288	64,599	66,386	66,969	68,146	69,664	750,115
1988	55,178	56,882	58,746	59,828	62,475	63,390	64,620	65,139	66,509	67,940	70,659	72,449	763,815
1990	56,167	57,103	59,672	60,386	62,199	62,917	64,278	65,941	68,605	70,093	73,720	74,042	775,124
1992	57,651	58,443	59,794	60,346	61,731	63,960	66,847	68,750	72,020	73,148	75,262	76,413	794,364
1994	57,035	57,811	59,808	61,638	64,354	66,611	69,992	71,397	73,413	74,988	77,311	79,530	813,888
1996	55,593	57,523	60,682	63,244	67,119	68,556	70,617	72,805	75,331	77,658	80,682	83,232	833,043
1998	57,095	60,033	63,797	65,928	67,855	69,533	72,110	74,772	78,441	81,542	84,356	87,917	863,379
2000	59,503	62,532	64,684	66,725	69,561	72,026	75,075	78,293	81,084	85,213	87,077	89,359	891,132
2002	61,235	63,727	66,287	68,790	71,773	74,456	78,353	82,102	83,957	85,777	88,421	91,792	916,670
2004	62,231	65,168	67,921	71,293	74,460	78,355	80,023	82,364	84,669	88,422	89,786	92,208	936,900

Note: Percentiles are gender-specific. The composition of individuals in a given cohort may change over time as some Canadian-born individuals move in or out of the labour market, emigrate to other countries or die and as some immigrants enter or leave a given cohort of paid workers.

Source: Statistics Canada, Longitudinal Worker File.

Table 8
Mean real annual wages of young men and women, from ages 28 to 29 to ages 39 to 40, selected cohorts

	Ages												Cumulative earnings
	28 to 29	29 to 30	30 to 31	31 to 32	32 to 33	33 to 34	34 to 35	35 to 36	36 to 37	37 to 38	38 to 39	39 to 40	
	2015 dollars												
Cohort of young men													
1978	48,524	50,571	52,377	53,365	52,469	52,756	54,917	56,872	57,981	59,640	62,974	63,869	666,315
1984	43,360	45,472	47,226	49,170	51,716	53,368	53,351	52,579	54,120	54,797	56,860	57,882	619,900
1986	42,939	45,140	47,847	49,640	49,967	49,382	50,902	52,251	54,515	55,690	57,450	60,068	615,791
1988	43,416	45,538	46,471	46,177	47,571	48,962	51,185	52,858	54,920	57,839	60,330	62,699	617,966
1990	41,771	41,719	43,592	44,823	47,330	49,296	51,121	54,298	57,164	59,220	62,078	63,250	615,662
1992	39,160	40,666	43,358	45,401	47,751	50,728	53,494	56,080	59,313	60,456	61,456	61,787	619,650
1994	38,889	41,404	43,695	46,845	50,224	52,752	56,184	57,426	58,140	59,097	61,440	63,853	629,949
1996	38,733	41,965	45,429	48,502	52,218	54,218	55,170	56,578	58,706	61,112	63,887	66,180	642,697
1998	40,885	44,336	48,092	50,136	51,946	53,386	55,999	59,072	61,746	63,937	65,974	65,835	661,344
2000	43,108	45,993	48,211	49,568	52,604	55,275	58,750	61,489	63,560	63,795	66,094	67,684	676,133
2002	42,832	45,032	47,986	51,003	54,312	57,133	59,831	59,719	62,464	64,475	66,604	69,196	680,587
2004	42,444	45,992	49,546	52,418	55,430	56,661	58,875	61,271	64,514	66,706	68,852	69,757	692,465
Cohort of young women													
1978	29,542	29,646	30,360	30,545	31,424	31,645	32,057	32,734	33,212	33,962	35,508	35,988	386,623
1984	29,169	29,517	29,895	30,453	31,436	32,219	32,880	32,983	34,654	35,095	36,060	36,469	390,831
1986	28,544	29,172	30,086	30,749	31,301	31,521	33,208	33,697	34,600	35,160	35,753	36,752	390,542
1988	29,025	29,708	30,472	30,687	32,173	32,592	33,522	34,132	34,923	35,896	37,435	38,923	399,488
1990	29,168	29,333	30,743	31,372	32,251	32,988	33,644	34,649	36,226	37,291	38,829	39,231	405,725
1992	29,786	30,133	30,939	31,449	32,304	33,669	35,423	36,382	37,991	38,484	39,159	39,870	415,589
1994	29,555	30,176	31,280	32,539	34,052	35,171	36,774	37,478	38,206	38,765	40,339	41,704	426,039
1996	29,241	30,594	32,304	33,745	35,302	36,169	36,375	37,488	38,655	39,977	41,662	43,488	434,999
1998	30,177	31,876	33,723	34,595	34,852	35,932	37,082	38,591	40,531	42,450	43,957	45,461	449,227
2000	31,509	32,940	33,307	34,163	35,388	36,713	38,309	40,091	41,566	43,412	44,388	45,681	457,465
2002	31,786	32,598	33,874	34,965	36,653	38,294	39,935	41,425	42,559	43,790	45,311	47,281	468,472
2004	31,984	33,426	34,764	36,373	37,891	39,545	40,550	41,930	43,304	45,181	46,455	48,099	479,502

Note: Percentiles are gender-specific. The composition of individuals in a given cohort may change over time as some Canadian-born individuals move in or out of the labour market, emigrate to other countries or die and as some immigrants enter or leave a given cohort of paid workers. The sample consists of individuals who earned $10 million or less in a given year in 2015 dollars.

Source: Statistics Canada, Longitudinal Worker File.

Table 9
Cumulative earnings from ages 28 to 29 to ages 33 to 34, by sex, selected cohorts

	Cumulative earnings			
	Men		Women	
Cohort	Median	Average	Median	Average
	2015 dollars			
1978	313,080	310,062	171,130	183,162
1980	303,968	300,856	171,830	183,421
1982	291,973	291,929	169,851	182,364
1984	285,437	290,311	169,530	182,690
1986	277,515	284,915	166,544	181,374
1988	269,035	278,135	168,894	184,657
1990	256,314	268,531	169,250	185,855
1992	250,279	267,064	170,690	188,281
1994	251,400	273,808	174,340	192,774
1996	256,056	281,065	177,042	197,355
1998	260,919	288,781	177,485	201,155
2000	264,254	294,761	178,853	204,018
2002	267,808	298,298	182,791	208,170
2004	269,602	302,491	188,265	213,983
2006	273,120	307,464	193,961	220,882
2008	273,323	308,226	197,122	223,646
2010	276,509	314,597	198,033	225,602

Note: Average cumulative earnings are computed for workers who earned less than $10 million in a given year.
Source: Statistics Canada, Longitudinal Worker File.

Appendix: Data and methods

The study uses data from Statistics Canada's Longitudinal Worker File (LWF). Three versions of the LWF are used: the 10% versions of: (a) the 1978–1989 LWF, (b) the 1983–2010 LWF, and (c) the 1989–2015 LWF.

Throughout the article, the LWF data are generated using a four-step procedure:

Step 1: In all three versions of the LWF, first restrict the sample to jobs that pay least $500 in 1989 constant dollars (in line with Morissette [2004]) or, equivalently, $846.26 in 2015 dollars (i.e., $500*(126.6/74.8)). Second, convert job-level annual wages into 2015 dollars.

Step 2: Using the resulting job-level samples obtained from Step 1, use the 1989–2015 LWF and the 1983–2010 LWF and anchor the 1983-to-1988 data of the 1983–2010 LWF onto the 1989–2015 LWF, using a rescaling factor obtained from the common year 1989.[13]

Step 3: Anchor the 1978-to-1982 job-level data of the 1978–1989 LWF onto the anchored 1983-to-1988 job-level data of the 1983–2010 LWF (obtained after Step 2) using a rescaling factor obtained from the common year 1983.

Step 4: Once the job-level data have been made consistent through Steps 2 and 3, compute individual-level real wages and salaries (by summing T4 real earnings across all jobs held by a person in a given year).

To perform synthetic cohort analyses for workers aged 28 to 29 at the beginning of the time interval considered, the following samples are selected:

Using the *anchored* version of the 1978–1989 LWF, the study tracks the wages of individuals aged 28 to 29:

- In 1978 over the 1978-to-1989 period = cohort 1 (12 years).
- In 1980 over the 1980-to-1989 period = cohort 2 (10 years).
- In 1982 over the 1982-to-1989 period = cohort 3 (8 years).

Using the *anchored* version of the 1983–2010 LWF, the study tracks the wages of individuals aged 28 to 29:

- In 1984 over the 1984-to-1995 period = cohort 4 (12 years).
- In 1986 over the 1986-to-1997 period = cohort 5 (12 years).
- In 1988 over the 1988-to-1999 period = cohort 6 (12 years).

Using the 1989–2015 LWF, the study tracks the wages of individuals aged 28 to 29:

- In 1990 over the 1990-to-2001 period = cohort 7 (12 years).
- In 1992 over the 1992-to-2003 period = cohort 8 (12 years).
- In 1994 over the 1994-to-2005 period = cohort 9 (12 years).
- In 1996 over the 1996-to-2007 period = cohort 10 (12 years).
- In 1998 over the 1998-to-2009 period = cohort 11 (12 years).
- In 2000 over the 2000-to-2011 period = cohort 12 (12 years).
- In 2002 over the 2002-to-2013 period = cohort 13 (12 years).

13. For example, if real average annual job-level wages in 1989 are $20,200 in the 1989–2015 LWF and $20,000 in the 1983–2010 LWF, adjust upwards the 1983-to-1988 microdata of the 1983–2010 LWF by a factor of 1.01, i.e., $20,200 divided by $20,000.

- In 2004 over the 2004-to-2015 period = cohort 14 (12 years).
- In 2006 over the 2006-to-2015 period = cohort 15 (10 years).
- In 2008 over the 2008-to-2015 period = cohort 16 (8 years).
- In 2010 over the 2010-to-2015 period = cohort 17 (6 years).

For each gender, year and cohort considered, workers with no wages and salaries are excluded. The percentiles are obtained from the earnings distribution of a given gender, cohort and year.

This yields 186 cohort–year observations for each gender. All synthetic cohort analyses are performed separately for men and women.

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